

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-118. (Cancelled)

119. (Previously Presented) A recombinant or synthetic polynucleotide encoding a protein that comprises an amino acid sequence at least 60% identical to SEQ. ID NO:118, and that comprises each of the following structures:

- a) X₃-Arg-X₂-Pro-Lys-X₃ (SEQ. ID NO:139)
- b) X-Arg-X-Ile-X (SEQ. ID NO:143)
- c) X₄-Phe-X₃-Asp-X₄-Tyr-Asp-X₂ (SEQ. ID NO:144)
- d) Tyr-X₄-Gly-X₂-Gln-Gly-X₃-Ser-X₈ (SEQ. ID NO:146)
- e) X₆-Asp-Asp-X-Leu-X₃ (SEQ. ID NO:147); and
- f) either: Trp-R₁-X₇-R₁-R₂-X-Phe-Phe-Tyr-X-Thr-Glu-X₈-R₃-R₃-Arg-

R₄-X₂-Trp (SEQ. ID NO:16),

or: Trp-R₁-X₇-R₁-R₂-X-Phe-Phe-Tyr-X-Thr-Glu-X₉-R₃-R₃-Arg-R₄-X₂-Trp (SEQ. ID NO:17);

wherein R₁ is Leu or Ile; R₂ is Gln or Arg; R₃ is Phe or Tyr; R₄ is Lys or His, and X_n represents the number n of consecutive unspecified amino acids;

and wherein the protein has telomerase catalytic activity when complexed with a telomerase RNA component.

120. (Currently Amended) The polynucleotide of claim 119, comprising the structure wherein f) is Trp-Leu-X-Tyr-X₂-h-h-X-h-h-X-p-Phe-Phe-Tyr-X-Thr-Glu-X-p-X₃-p-X₃-Tyr-X-Arg-Lys-X₂-Trp (SEQ. ID NO:116); wherein h is a hydrophobic amino acid selected

from Ala, Leu, Ile, Val, Pro, Phe, Trp, and Met; and p is a polar amino acid selected from Gly, Ser, Thr, Tyr, Cys, Asn and Gln.

121. (Currently Amended) The polynucleotide of claim 119, where structure f) ~~comprises~~ is joined to Arg-Lys-X₂-Trp-X₂-Leu (SEQ ID NO:477).

122. (Currently Amended) The polynucleotide of claim 119, where structure a) ~~comprises~~ is h-Arg-h-X-Pro-Lys, wherein h is a hydrophobic amino acid selected from Ala, Leu, Ile, Val, Pro, Phe, Trp, and Met (SEQ ID NO:473).

123. (Currently Amended) The polynucleotide of claim 119, where structure b) ~~comprises~~ is Arg-X-Ile-Pro-Lys (SEQ ID NO:478).

124. (Currently Amended) The polynucleotide of claim 119, where structure d) ~~comprises~~ is Gly-Ile-Pro-Gln-Gly-Ser (SEQ ID NO:370).

125. (Currently Amended) The polynucleotide of claim 119, where structure e) ~~comprises~~ is Leu-Leu-Leu-Arg-Leu-X-Asp-Asp-Phe-Leu (SEQ ID NO:479).

126. (Previously Presented) The polynucleotide of claim 119, comprising at least 10 consecutive amino acids of SEQ. ID NO:118.

127. (Withdrawn) (Currently Amended) A method for increasing proliferative capacity of a cell of a vertebrate species, comprising expressing the polynucleotide of claim 119 in the cell in vitro.